

Vitamins, minerals improve symptoms for children with ADHD

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Children with ADHD and emotional dysregulation who were given a micronutrient-dense formula made of all known vitamins and essential minerals were three times more likely to have better concentration and

improved moods, research from Oregon Health & Science University found.

The findings, featured on the May cover of the *Journal of the American Academy of Child & Adolescent Psychiatry*, may provide another treatment option for clinicians and families.

In the study, 54% of the children who were given supplemental vitamins and minerals showed improvement in their symptoms, versus 18% in the placebo group.

"These findings, replicating results of a previous randomized trial of micronutrients in children with ADHD conducted in New Zealand, confirm that supplementation with a broad range of nutrients may benefit some children," said lead author Jeanette Johnstone, Ph.D., assistant professor of child and adolescent psychiatry in the OHSU School of Medicine. "ADHD is a common diagnosis, affecting upward of 7% of children, and common pharmacologic treatments can cause [adverse side effects](#). Supplementing micronutrients may be an exciting integrative treatment for many families."

The study included 135 children with ADHD and emotional dysregulation at three sites: Portland; Columbus, Ohio; and Alberta, Canada. The children, ages 6 to 12, were not taking any medications. Participants were randomly assigned to two groups: One was provided micronutrient capsules that contained all known vitamins and essential minerals at doses between the recommended daily allowance and upper tolerable limit; and, the other received placebo capsules that did not contain the extra micronutrients. The study was blinded, so neither [children](#), their parents nor the researchers knew which capsules they were given.

After eight weeks, more than half of the micronutrient group showed

improvement in their concentration and mood. Children taking the micronutrients also grew 6 millimeters more than those taking a placebo.

Additionally, the micronutrient group did not experience more adverse side effects than the [placebo group](#); there were no significant differences between the two groups in their blood and urine safety labs.

"The growth finding, also a replication from the previous child [micronutrient](#) study, is particularly encouraging," Johnstone said. "Evidence of ADHD medication causing height suppression has been a concern. These findings suggest that vitamin and mineral supplementation at sufficient doses may avoid the growth suppression associated with other treatment options."

Johnstone said future studies will seek to understand how and why micronutrients improve attention and mood, examining changes in gut microbiome and other indicators.

More information: Jeanette M. Johnstone et al, Micronutrients for Attention-Deficit/Hyperactivity Disorder in Youths: A Placebo-Controlled Randomized Clinical Trial, *Journal of the American Academy of Child & Adolescent Psychiatry* (2021). [DOI: 10.1016/j.jaac.2021.07.005](#)

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